

## PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

KUESTERS, Eckhard, H.  
Oblon, Spivak, McClelland, Maier &  
Neustadt, P.C.  
Crystal Square Five, 4th floor  
1755 Jefferson Davis Highway  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUEDate of mailing (day/month/year)  
23 August 2000 (23.08.00)Applicant's or agent's file reference  
7097001220WOInternational application No.  
PCT/US99/14146

## IMPORTANT NOTIFICATION

International filing date (day/month/year)  
14 July 1999 (14.07.99)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address

SANCONIX, INC.  
101 West Robert E. Lee Boulevard  
New Orleans, LA 70124  
United States of AmericaState of Nationality  
USState of Residence  
US

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address

AXONN, L.L.C.  
101 West Robert E. Lee Boulevard  
New Orleans, LA 70124  
United States of AmericaState of Nationality  
USState of Residence  
US

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned  
☐ the International Searching Authority ☒ the elected Offices concerned  
☒ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Dominique DELMAS

Telephone No.: (41-22) 338.83.38

003483349

## PATENT COOPERATION TREATY

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## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 16 March 2000 (16.03.00)	
International application No. PCT/US99/14146	Applicant's or agent's file reference 7097001220WO
International filing date (day/month/year) 14 July 1999 (14.07.99)	Priority date (day/month/year) 14 July 1998 (14.07.98)
Applicant ROUQUETTE, Robert, E.	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
07 February 2000 (07.02.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Juan Cruz Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

KUESTERS, Eckhard, H.  
Oblon, Spivak, McClelland, Maier &  
Neustadt, P.C.  
Crystal Square Five, 4th floor  
1755 Jefferson Davis Highway  
Arlington, VA 22202  
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year) 23 September 1999 (23.09.99)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 7097001220WO 7097-0012-20 WO	
International application No. PCT/US99/14146	International filing date (day/month/year) 14 July 1999 (14.07.99)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 14 July 1998 (14.07.98)
Applicant SANCONIX, INC. et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
14 July 1998 (14.07.98)	60/092,839	US	21 Sept 1999 (21.09.99)

RECEIVED

OCT 08 1999

OBLON, SPIVAK, McCLELLAND  
MAIER & NEUSTADT, P.C.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Olivia RANAIVOJAONA Telephone No. (41-22) 338.83.38
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**PCT**

**NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES**

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

KUESTERS, Eckhard, H.  
Oblon, Spivak, McClelland, Maier &  
Neustadt, P.C.  
Crystal Square Five, 4th floor  
1755 Jefferson Davis Highway  
Arlington, VA 22202  
ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year)

27 January 2000 (27.01.00)

Applicant's or agent's file reference

7097001220WO

**IMPORTANT NOTICE**

International application No.

PCT/US99/14146

International filing date (day/month/year)

14 July 1999 (14.07.99)

Priority date (day/month/year)

14 July 1998 (14.07.98)

Applicant

SANCONIX, INC. et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
**AU,EP,US**

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
**CA**

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 27 January 2000 (27.01.00) under No. WO 00/04657

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a **demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

J. Zahra

Telephone No. (41-22) 338.83.38

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: ECKHARD H. KUESTERS  
OBLON, SPIVAK, MCCLELLAND, MAIER &  
NEUSTADT, P.C., CRYSTAL SQUARE FIVE  
1755 JEFFERSON DAVIS HIGHWAY  
ARLINGTON, VA 22202

**RECEIVED**

OCT 18 2000

OBLON, SPIVAK, MCCLELLAND  
MAIER & NEUSTADT, P.C.

## PCT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Applicant's or agent's file reference 7097001220WO		Date of Mailing (day/month/year)	
International application No. PCT/US99/14146		International filing date (day/month/year) 14 JULY 1999	Priority Date (day/month/year) 14 JULY 1998
Applicant SANCONIX, INC.			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

YOUNG T. TSE

*James R. Matthews*

Telephone No. (703) 305-4736

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>7097001220WO</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/US99/14146</b>	International filing date ( <i>day/month/year</i> ) <b>14 JULY 1999</b>	Priority date ( <i>day/month/year</i> ) <b>14 JULY 1998</b>
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant <b>SANCONIX, INC.</b>		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of <u>0</u> sheets.
3.	This report contains indications relating to the following items: <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand  <b>07 FEBRUARY 2000</b>	Date of completion of this report  <b>27 SEPTEMBER 2000</b>
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231  Facsimile No. (703) 305-3230	Authorized officer  <b>YOUNG T. TSE</b> <i>James R. Matthews</i> Telephone No. (703) 305-4736

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/14146

## I. Basis of the report

1. With regard to the **elements** of the international application:\*☒ the international application as originally filed☒ the description:pages 1-14 , as originally filedpages NONE , filed with the demandpages NONE , filed with the letter of \_\_\_\_\_☒ the claims:pages 15-29 , as originally filedpages NONE , as amended (together with any statement) under Article 19pages NONE , filed with the demandpages NONE , filed with the letter of \_\_\_\_\_☒ the drawings:pages 1-17 , as originally filedpages NONE , filed with the demandpages NONE , filed with the letter of \_\_\_\_\_☒ the sequence listing part of the description:pages NONE , as originally filedpages NONE , filed with the demandpages NONE , filed with the letter of \_\_\_\_\_2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages NONE☒ the claims, Nos. NONE☒ the drawings, sheets/fig NONE5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\*Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/14146

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. statement**

Novelty (N)	Claims <u>1-52</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-52</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-52</u>	YES
	Claims <u>NONE</u>	NO

**2. citations and explanations (Rule 70.7)**

Claims 1-52 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest a method for the use in a spread spectrum receiver for narrow-band interference rejection in a signal comprising transforming the received signal to a frequency domain signal and identifying narrow-band interference components in the frequency domain signal; suppressing the identified narrow-band interference components by excising the identified narrow-band interference components in a memory; synchronizing a receiver code to a transmitter code using the interference excised signal; generating time domain filter coefficients including notch frequencies corresponding to the excised narrow-band interference components; and applying the coefficients to the time domain filter and despreading and filtering the received signal.

----- NEW CITATIONS -----  
NONE



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US99/14146

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

**CLASSIFICATION:**

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): H04B 15/00, 1/10; H04K 1/00; H04L 27/30, 7/00 and US Cl.: 375/130, 140, 147, 148, 152, 267, 346, 347, 348, 349, 350, 367



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>H04B 15/00, 1/10, H04K 1/00, H04L 27/30, 7/00</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/04657</b> <b>(43) International Publication Date:</b> 27 January 2000 (27.01.00)
<b>(21) International Application Number:</b> PCT/US99/14146 <b>(22) International Filing Date:</b> 14 July 1999 (14.07.99) <b>(30) Priority Data:</b> 60/092,839 14 July 1998 (14.07.98) US <b>(71) Applicant (for all designated States except US):</b> SANCONIX, INC. [US/US]; 101 West Robert E. Lee Boulevard, New Orleans, LA 70124 (US). <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> ROUQUETTE, Robert, E. [US/US]; 633 Meursault Drive, Kenner, LA 70065 (US). <b>(74) Agents:</b> KUESTERS, Eckhard, H. et al.; Oblon, Spivak, McClelland, Maier & Neustadt, P.C., Crystal Square Five, 4th floor, 1755 Jefferson Davis Highway, Arlington, VA 22202 (US).		<b>(81) Designated States:</b> AU, CA, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> NARROW-BAND INTERFERENCE REJECTING SPREAD SPECTRUM RADIO SYSTEM AND METHOD  <b>(57) Abstract</b>  A spread spectrum receiver and method having narrow-band interference rejection of narrow-band jamming signals using digital signal processing frequency domain techniques. The method performed in the receiver includes transforming the received signal to a frequency domain signal and identifying narrow-band interference components in the frequency domain signal; suppressing the identified narrow-band interference components by excising the identified narrow-band interference components from the frequency domain signal to produce an interference excised signal in the frequency domain, and storing in a memory frequencies corresponding to the identified narrow-band interference components; synchronizing a receiver code to a transmitter code in the frequency domain using the interference excised signal; generating coefficients for a time domain filter that includes notches at the frequencies corresponding to the excised narrow-band interference components and that jointly despreads and rejects narrow-band interference from the excised frequencies; applying the coefficients generated in the preceding step to the time domain filter; and despreads and filtering in real time in the time domain the received signal using the applied coefficients.		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/14146

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(6) :H04B 15/00, 1/10; H04K 1/00; H04L 27/30, 7/00 US CL :375/200, 206, 207, 267, 346, 347, 348, 349, 350, 367 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 375/200, 206, 207, 267, 346, 347, 348, 349, 350, 367 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) APS		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,671,247 A (SOUISSI et al) 23 September 1997, entire document.	1-52
A	US 5,612,978 A (BLANCHARD et al) 18 March 1997, entire document.	1-52
A	US 5,640,416 A (CHALMERS) 17 June 1997, entire document.	1-52
A	US 5,377,223 A (SCHILLING) 27 December 1994, entire document.	1-52
A	US 4,613,978 A (KURTH et al) 23 September 1986, entire document.	1-52
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family	
Date of the actual completion of the international search 09 SEPTEMBER 1999		Date of mailing of the international search report 28 OCT 1999
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230		Authorized officer <i>James R. Maddox</i> MICHAEL W. MADDOX Telephone No. (703) 308-9557